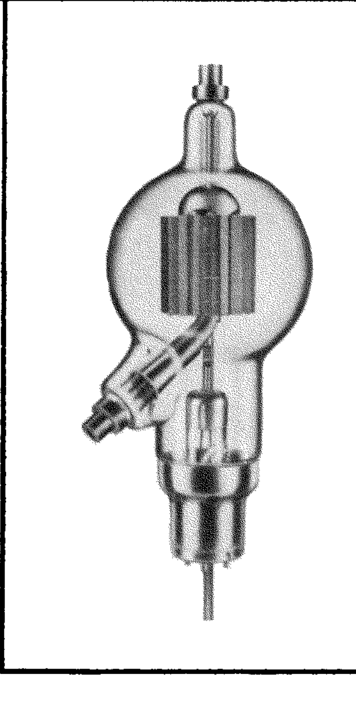


EITEL-McCULLOUGH, INC.
SAN BRUNO, CALIFORNIA

1000T

HIGH-MU TRIODE
•
MODULATOR
OSCILLATOR
AMPLIFIER



GENERAL CHARACTERISTICS

Electrical

Filament: Thoriated tungsten

Voltage	7.5	volts
Current	17.0	amperes
Amplification Factor (Average)		35

Direct Interelectrode Capacitances (Average)

Grid-Plate	5.1	$\mu\mu$f
Grid-Filament	9.3	$\mu\mu$f
Plate-Filament	0.5	$\mu\mu$f
Transconductance (I_b=750 ma., E_b=6000, e_c=−62)	9050	μmhos
Frequency for Maximum Ratings	50	mc

Mechanical

Base	4-pin with tubing for forced air No. 5004B
Basing	RMA type 4AQ

Maximum Overall Dimensions:

Length	12.625	inches
Diameter	5.125	inches
Net weight	1.25	pounds
Shipping weight (Average)	6.25	pounds

Audio Frequency Power Amplifier and Modulator

Class B

	Typical Operation—2 Tubes			Max. Rating	
D-C Plate Voltage	4000	5000	6000	7500	volts
Max.-Signal D-C Plate Current, per tube*	•	•	•	750	ma.
Plate Dissipation, per tube*	•	•	•	1000	watts
D-C Grid Voltage (approx.)	−70	−105	−135		volts
Peak A-F Grid Input Voltage	490	530	600		volts
Zero-Signal D-C Plate Current	.300	.240	.200		amps.
Max.-Signal D-C Plate Current	1.25	1.14	1.11		amps.
Max.-Signal Driving Power (approx.)	28	31	35		watts
Effective Load, Plate-to-Plate	6350	9250	12200		ohms
Max.-Signal Plate Power Output	3000	3700	4600		watts

*Averaged over any sinusoidal audio frequency cycle.

Radio Frequency Power Amplifier and Oscillator

Class-C *Telegraphy
(Key down conditions without modulation)

	Typical Operation—1 Tube				Max. Rating	
D-C Plate Voltage	3000	4000	5000	6000	7500	volts
D-C Plate Current	750	713	667	667	750	ma.
D-C Grid Current	90	100	87	110	125	ma.
D-C Grid Voltage	−150	−150	−225	−350		volts
Plate Power Output	1350	1850	2333	3000		watts
Plate Input	2250	2850	3333	4000		watts
Plate Dissipation	900	1000	1000	1000	1000	watts
Peak R. F. Grid Input Voltage, (approx.)	350	365	420	610		volts
Driving Power, (approx.)	30	33	33	60		watts

*The above figures show actual measured tube performance, and do not allow for variations in circuit losses.



EIMAC 1000T
CONSTANT CURRENT
CHARACTERISTICS

GRID VOLTS

-400 -200 0 200 400 600 800

PLATE VOLTS

0 1000 2000 3000 4000 5000 6000 7000 8000 9000

PLATE CURRENT
AMPERES

0 .25 .50 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0

GRID CURRENT
AMPERES

0 .05 .1 .2 .4 .6 .8 1.0 1.2 1.4 1.6 1.8 2.0 2.2

0 .05

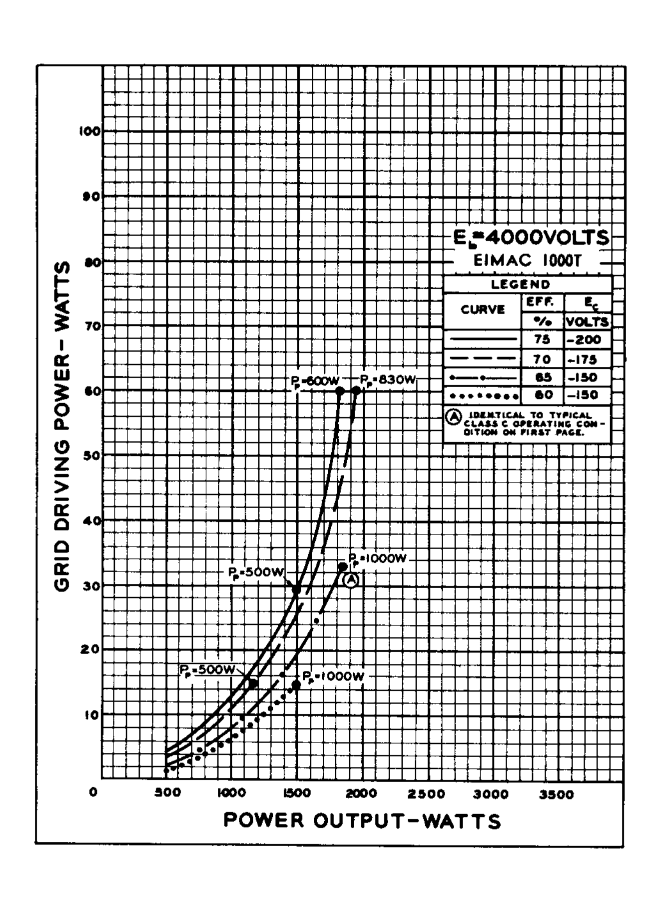


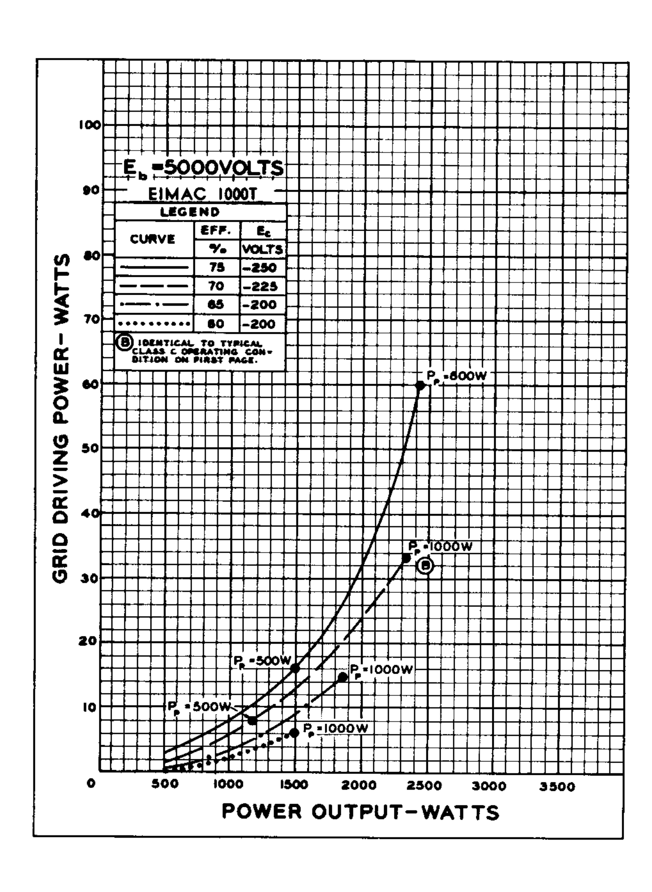
DRIVING POWER vs. POWER OUTPUT

•

The three charts on this page show the relationship of plate efficiency, power output and grid driving power at plate voltages of 4000, 5000 and 6000 volts. These charts show combined grid and bias losses only. The driving power and power output figures do not include circuit losses. The plate dissipation in watts is indicated by P_p.
Points A, B, and C are identical to the typical Class C operating conditions shown on the first page under 4000, 5000, and 6000 volts respectively.

•





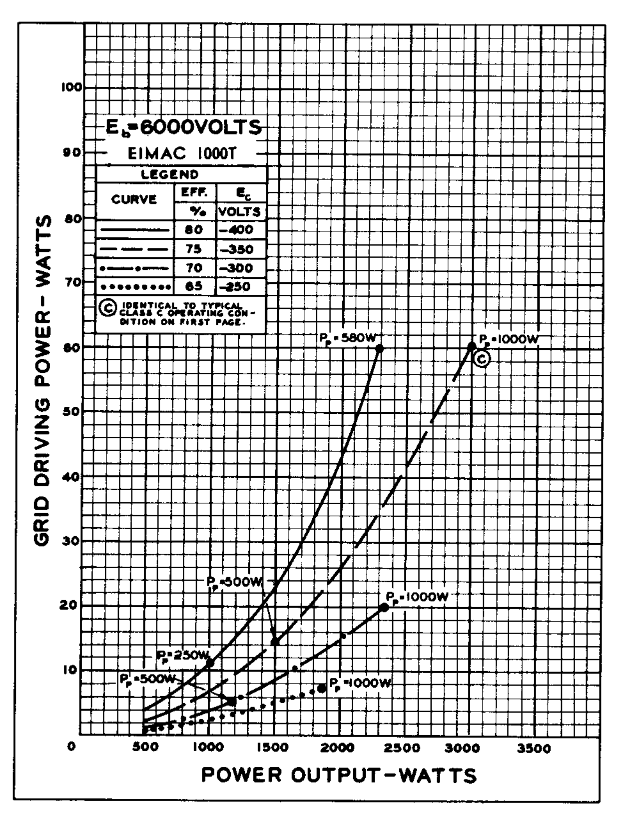




PLATE (4004C)

GRID (4005C)

$5\frac{1}{8}$ MAX.

$8\frac{5}{8}\pm\frac{1}{4}$

$11\frac{15}{16}\pm\frac{3}{8}$

$12\frac{1}{4}\pm\frac{3}{8}$

54°

$2\frac{1}{2}$ MAX.

$3\frac{1}{4}\pm\frac{3}{16}$

BASE NO. 5004B

FILAMENT

FILAMENT (CONNECTED INTERNALLY TO PIN NO.2)

FILAMENT (CONNECTED INTERNALLY TO PIN NO.4)

FILAMENT

CAPS

PLATE CAP NO. 4004C

.563 ± .005

$\frac{13}{16}$

$\frac{7}{8}$

$\frac{31}{64}$ MIN.

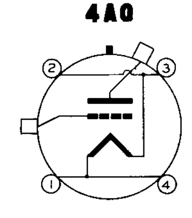
GRID CAP NO. 4005C

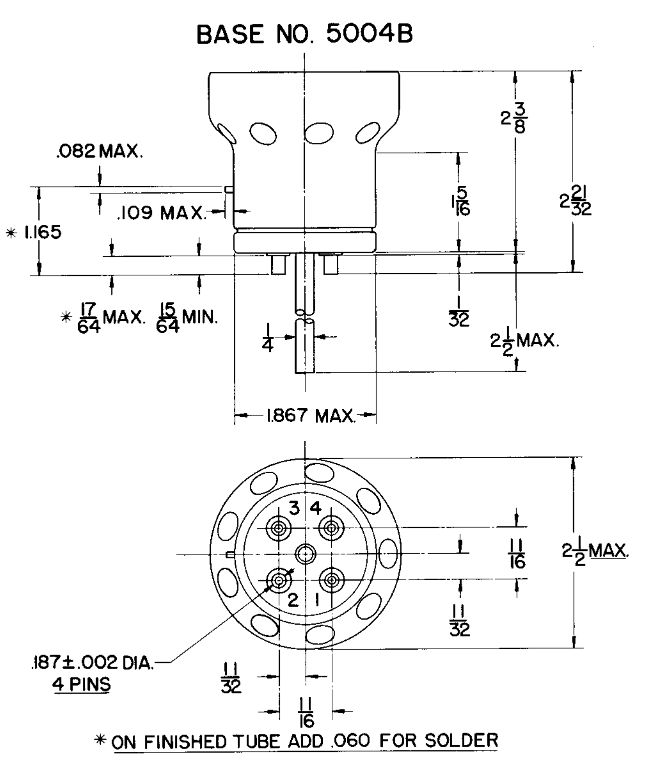
.563 ± .005

$\frac{13}{16}$

$\frac{7}{8}$

$\frac{31}{64}$ MIN.





Forced air cooling on the seals of the Eimac 1000T, 1500T, and 2000T is recommended when tubes are operated under maximum conditions. We suggest the Roots Connersville blower unit No. 22. This blower when driven by a 1/4 H. P. motor at 1160 r.p.m. will deliver 13 cubic feet of air per minute at 1 pound pressure.

Each tube seal requires approximately 2 cubic feet per minute, therefore, one of these No. 22 blowers should handle any two of the above tubes.

We would suggest the outlet manifold, which is 1 inch in diameter, be kept to the shortest possible length—under 8 feet. It is also suggested 3/8 inch O.D. copper tubing be used from the outlet manifold to feed air to the various seals. It will be necessary to use an insulating type of tubing to actually connect to the tubes themselves. This tubing should have an I.D. of 5/16 inch.

Roots Connersville's plant is in Connersville, Indiana, with offices in most of the large cities.

Bulbs must be cooled with air equivalent to that supplied by standard 8" electric fan 12" from bulb.